Region 1 FY 2012 Invasive Species Control Program Proposal

Refuge/complex name: Willamette Valley NWRC

Project title: Enhancing Upland Prairie on William L Finley and Baskett Slough NWR

Project description:

This proposal would focus on treatments of two selected noxious weed species; meadow knapweed in oak savannah/upland prairie habitat at W.L. Finley NWR and tall oatgrass on high quality upland prairie occupied by Fender's blue butterfly at Baskett Slough NWR. Selective herbicide applications using several techniques have proved to be most effective. Hand application with Milestone is preferred for meadow knapweed control. Tall oatgrass is controlled with specialized weed wiping applications in the late spring w/glyphosate and broadcast/hand applications (multiple) of a grass specific herbicide (Poast/Fusilade) in the early spring.

Tall oatgrass is a serious threat to native upland prairie on Baskett Slough NWR, where it impacts three listed plant species and the existing prairie habitat supports the largest concentration of Fender's blue butterflies in Oregon. Tall oatgrass dominates native bunch grasses and quickly out-competes forb species, making foraging and breeding difficult for the small butterflies. It generally advances with seed cast out from areas of concentration. Treatments will cover 50-70 acres of approximately 150 acres infested.

Meadow knapweed is a major threat at Finley NWR and is found primarily in upland prairie/oak savannah habitats, with over 95% of the plants located w/in a 200 acre area. As an allelopathic species, it quickly displaces native forbs, threatening the integrity of that immediate area. In addition, seed dispersal has the potential to quickly double the infested area. As experienced in the past decade when treatment of knapweed lapsed or was inadequate, the population and area impacted grows exponentially. Treatments are planned across the entire 200 acre area.

Integrated Pest Management has been applied to treatment of both species. Knapweed is extremely difficult to control w/o the use of herbicides. Hand pulling is not practical and has potential risk to workers, and mowing has limited effect and can spread seed inadvertently. Research to control tall oatgrass with mechanical means has been tried and documented by the Refuge and Oregon State University. It was determined mowing does not deliver long term control. Prescribed fire has also been used on tall oatgrass but does not reduce stand densities or control infestations. Chemical applications to tall oatgrass depend on the presence of butterflies. In areas or spots away from lupine host plants, grass specific herbicide treatments in the early spring can be effective w/o harm to butterfly larvae. Where lupine and FB butterfly are present, late spring weed-wiping with glyphosate (herbicide is applied to tall oatgrass above the native prairie canopy) is recommended.

What is potential for eradication of the invasive species?

Eradication of meadow knapweed on W.L. Finley NWR is not likely within a single year. History of past treatments, which have been inconsistent, have shown that w/o intensive follow-up in successive years, gains made with control efforts can be quickly lost. However, past treatments have also shown that control efforts have been significantly effective on containment and reduced spread. That said, if a 90% control is achieved in a given year, and the remaining 10% is treated with similar intensity in successive years, eradication is feasible w/in a 3-5 year period.

Overall eradication of tall oatgrass is not feasible due to distribution and topography. Although eradication may not be feasible, emphasis is placed on 1) containment within existing units; 2) significantly reduced density within botanically diverse units; 3) improved success of supplemental seeding in restoration units; and 4) prevent establishment and/or eradicate all plants in newly restored units in adjacent former farm fields.

Does the project support achieving the refuge purpose?

Treatment of these invasive species strongly supports the refuge's major emphasis areas by protecting and restoring the integrity of habitat used by migratory birds and listed species.

Does the project support biological integrity?

This proposal will result in significant improvement of the quality of oak savanna/upland prairie and promote healthy populations of listed species as the refuge works towards recovery plan goals. Concentrated and carefully planned/spaced treatments, containing and controlling the invasives most threatening, are essential to maintaining the biological integrity of the prairie/oak savannah habitat.

Will the project involve support from partners?
Partner support comes from three sources; the Oregon State FWS office, Oregon State University, and Washington State University. Support includes the butterfly monitoring and habitat evaluation, and a multi-year study examining a variety of management treatments on upland prairie, including herbicide fecundity on butterfly larvae.

What monitoring will be used to evaluate the project?
Pre-treatment conditions are well documented in an existing Baskett Butte Management Plan (Salix 2005). Butterfly population monitoring and habitat quality evaluations occur annually on Baskett Butte under contract by Oregon State University. Reproductive success is a good indicator of habitat quality. Refuge staff conducts site monitoring to determine the coverage and effectiveness, but the need for follow-up spot treatments is not determined until the following year (Spring 2013).

Proposed Budget:

Herbicide treatments (FWS and contract)	$18,000
Herbicide/equipment	$2,000
Project coordination/evaluation/monitoring	$5,000
Total Invasive Species Project Request	$**25,000**

Refuge Point of Contact:
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Comment [BFW1]: I'm not sure we should be covering this aspect. I'm all for the $20,000.